

FIG. 1

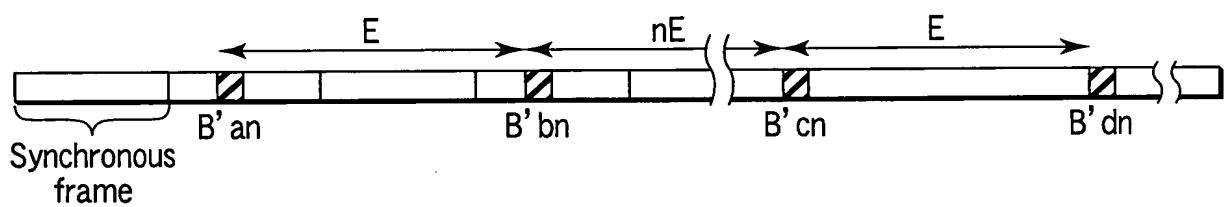


FIG. 3

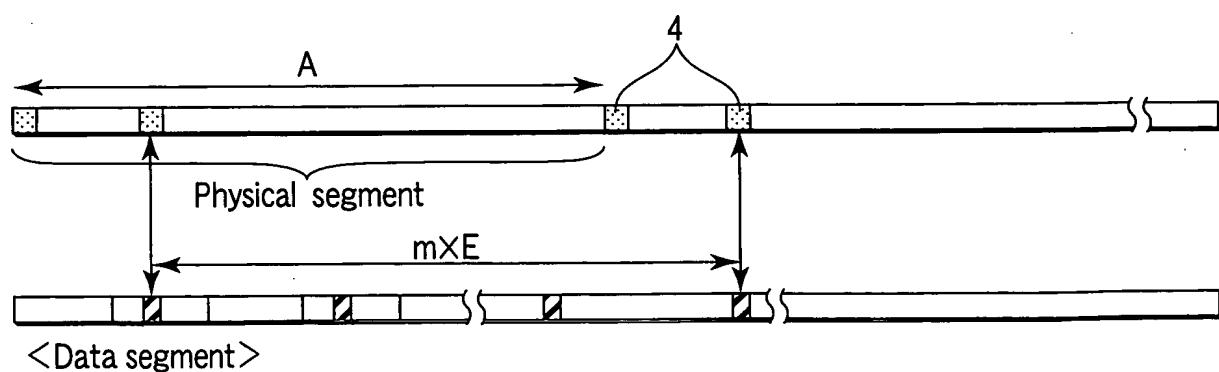


FIG. 4

FIG. 2A

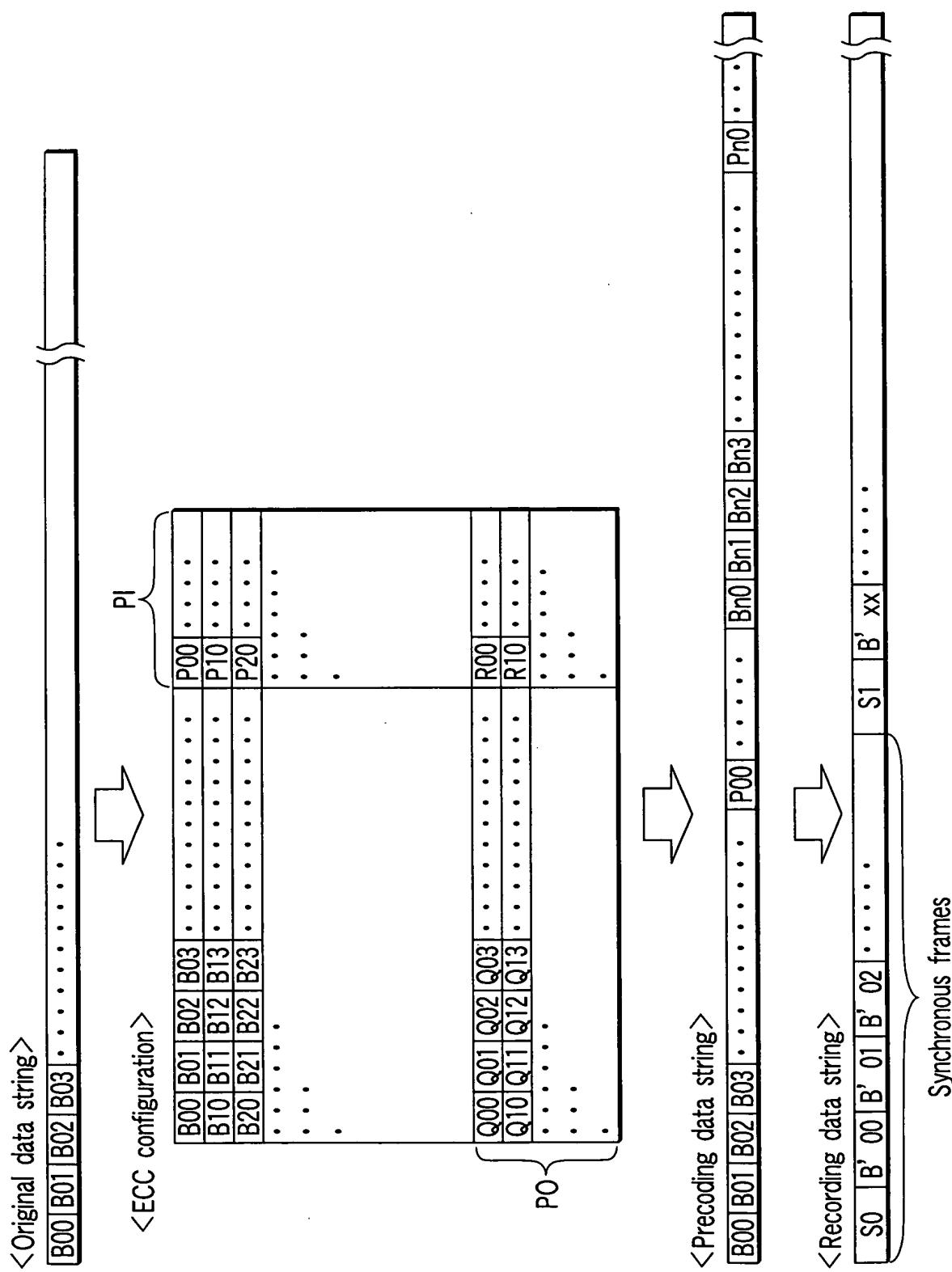


FIG. 5

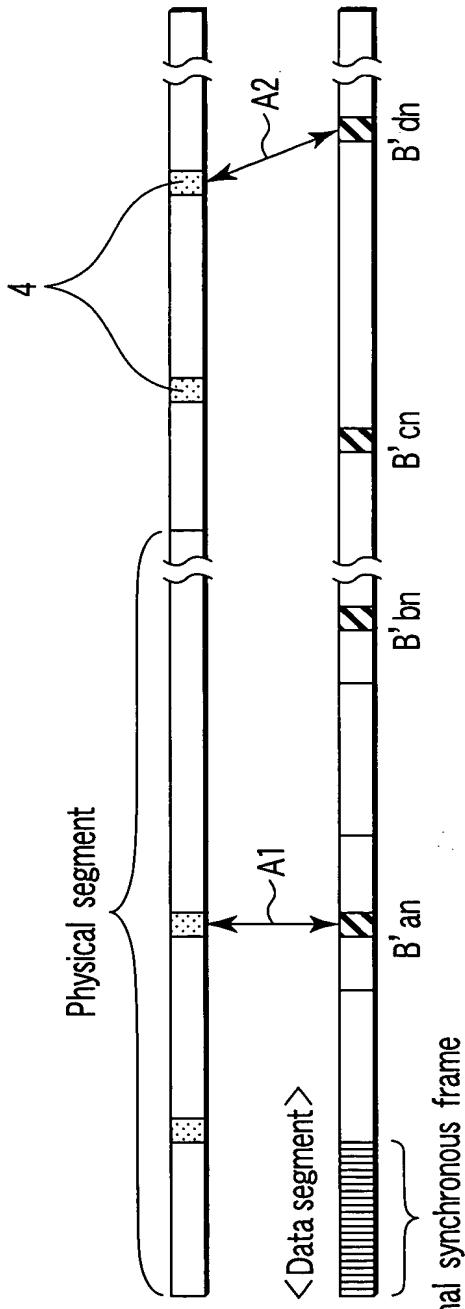
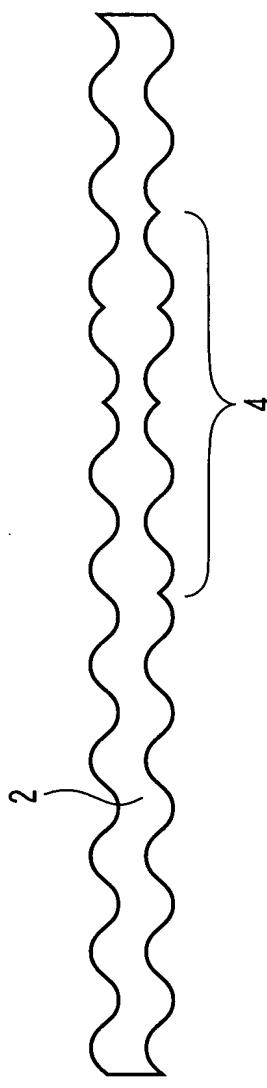


FIG. 6

Additional synchronous frame

<Recorded data>

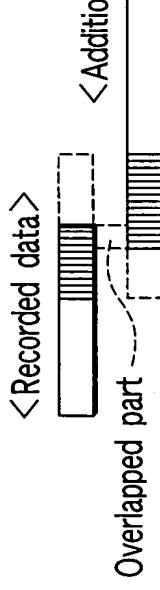


FIG. 7

Begin additional synchronous frame



End additional frame

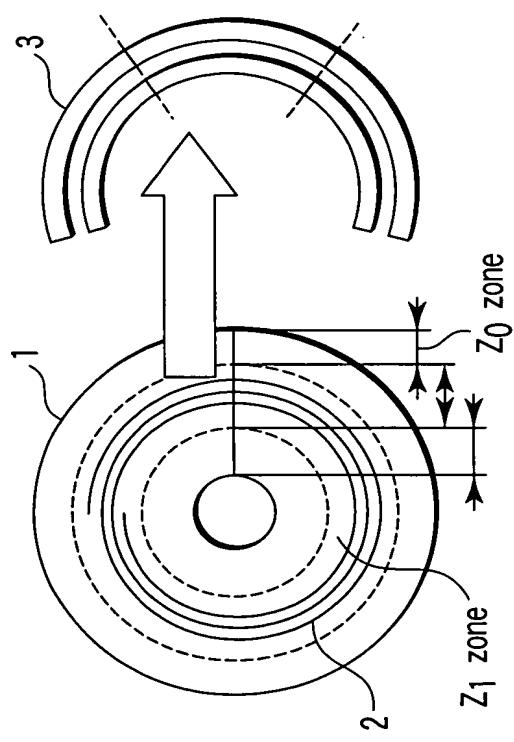


FIG. 8

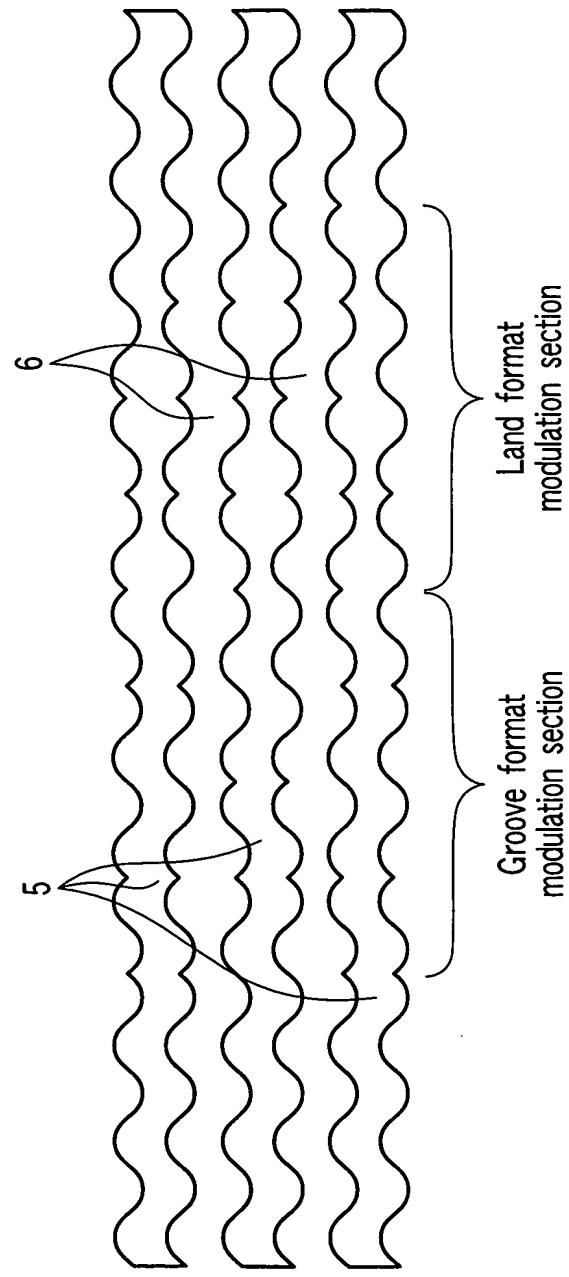


FIG. 9

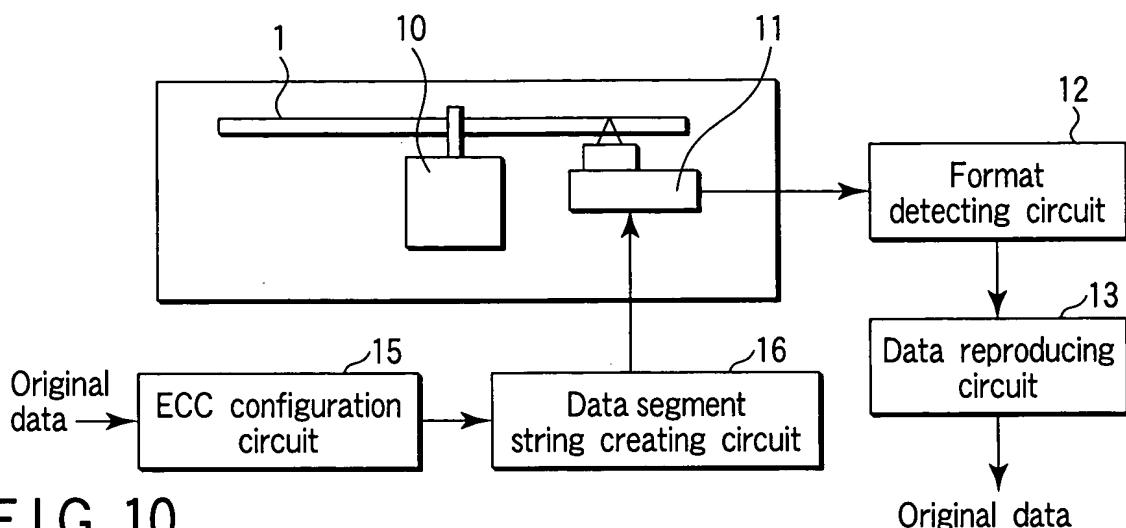


FIG. 10

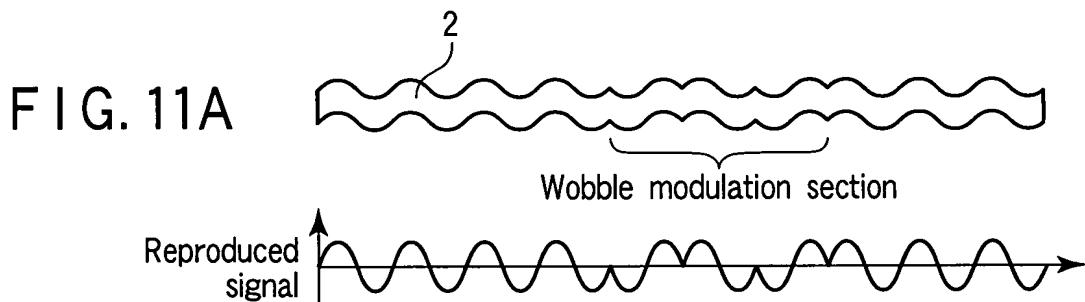


FIG. 11B

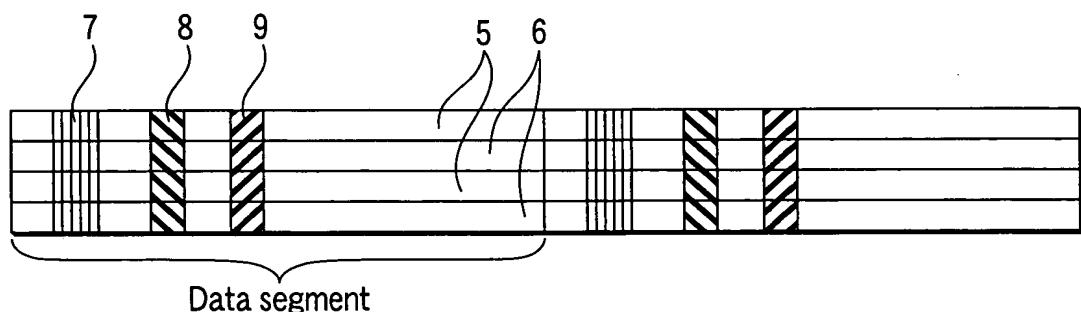


FIG. 12

FIG. 13

Binary code 000000 000001 000010 000011 000100 000101 000110	Gray code 000000 000001 000011 000010 000110 000111 001111
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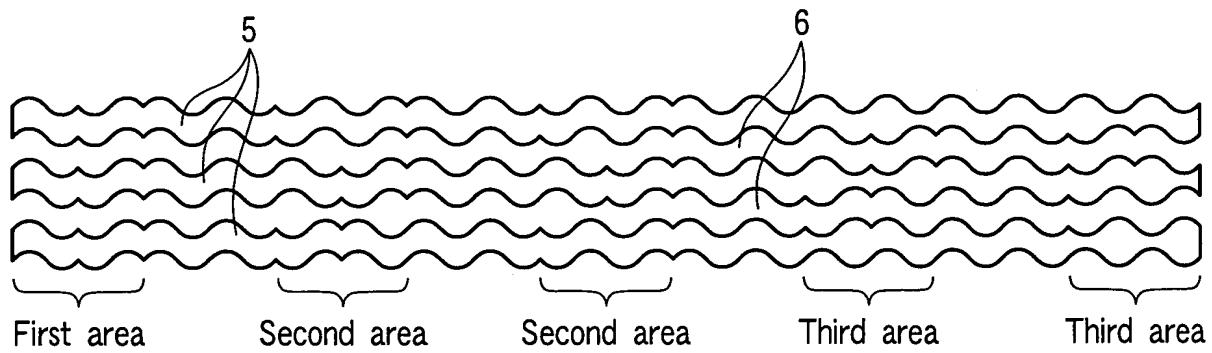


FIG. 15A

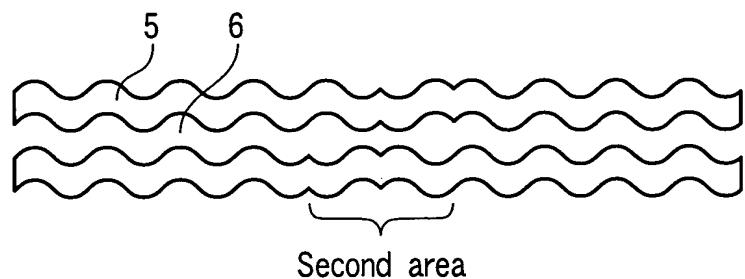
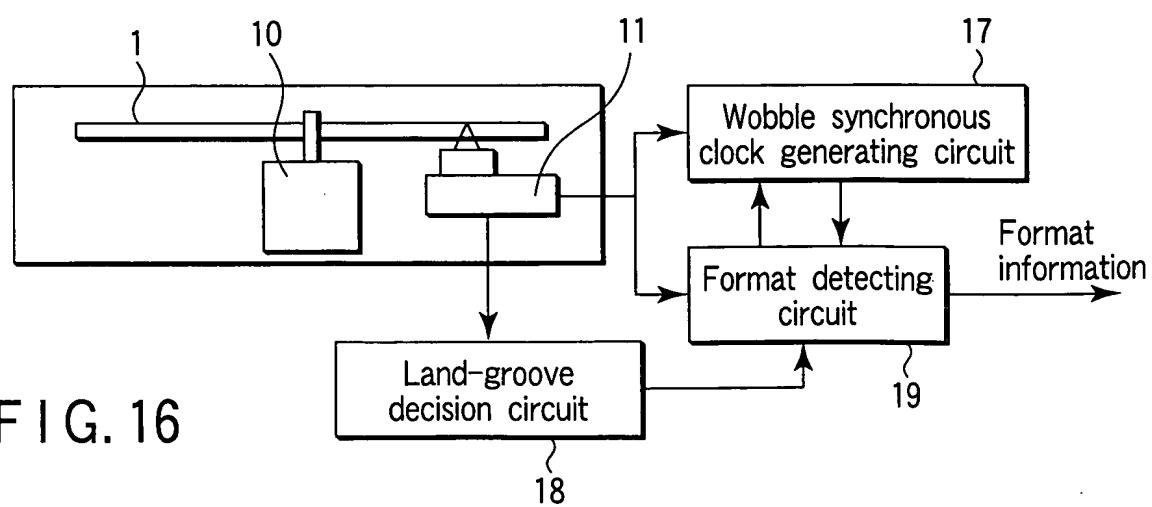
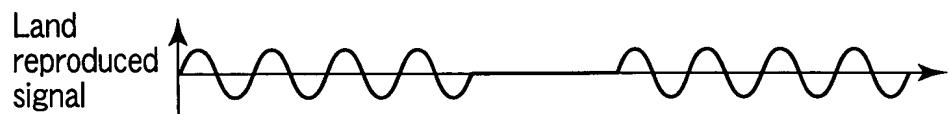


FIG. 15B



FIG. 15C



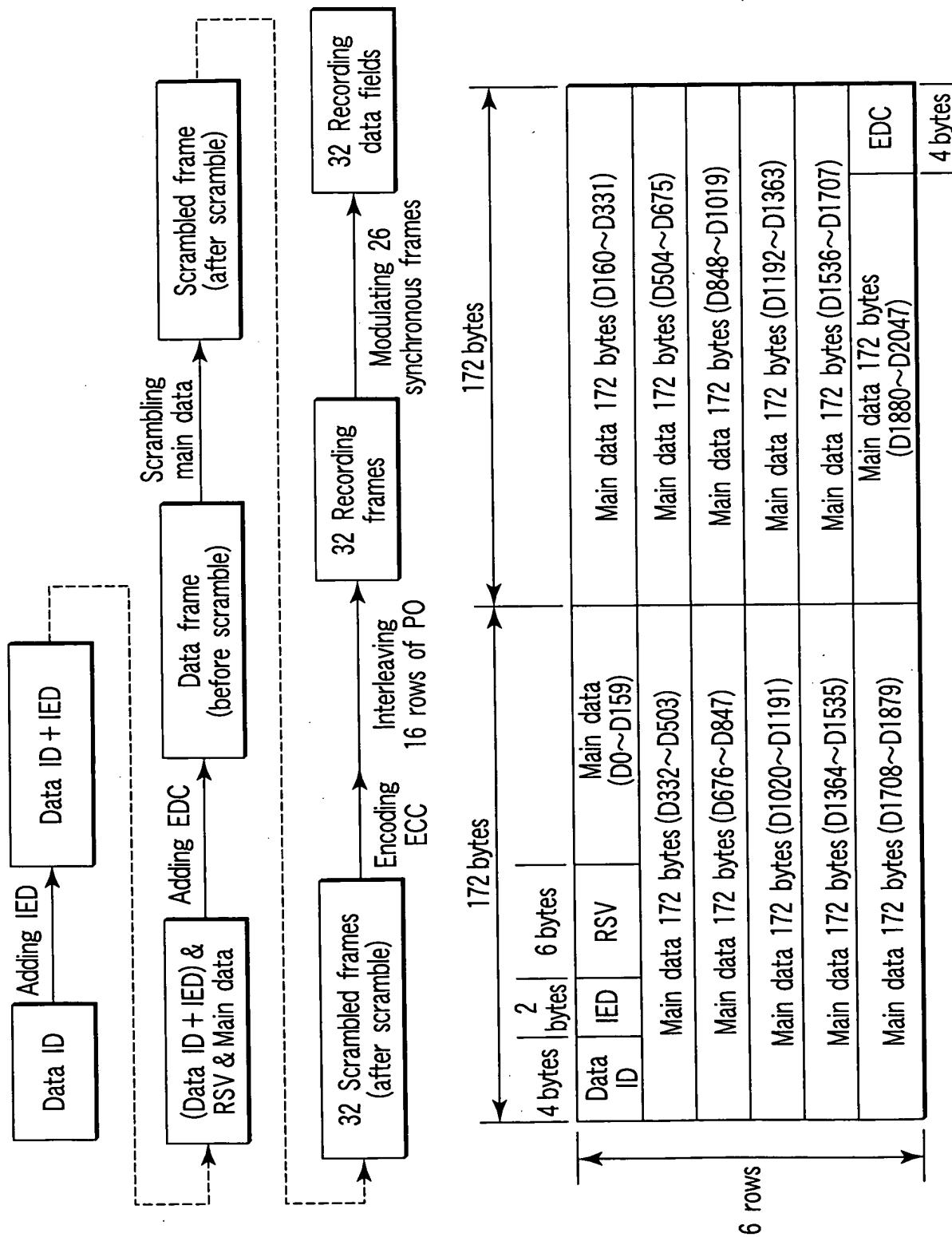


FIG. 17

FIG. 18

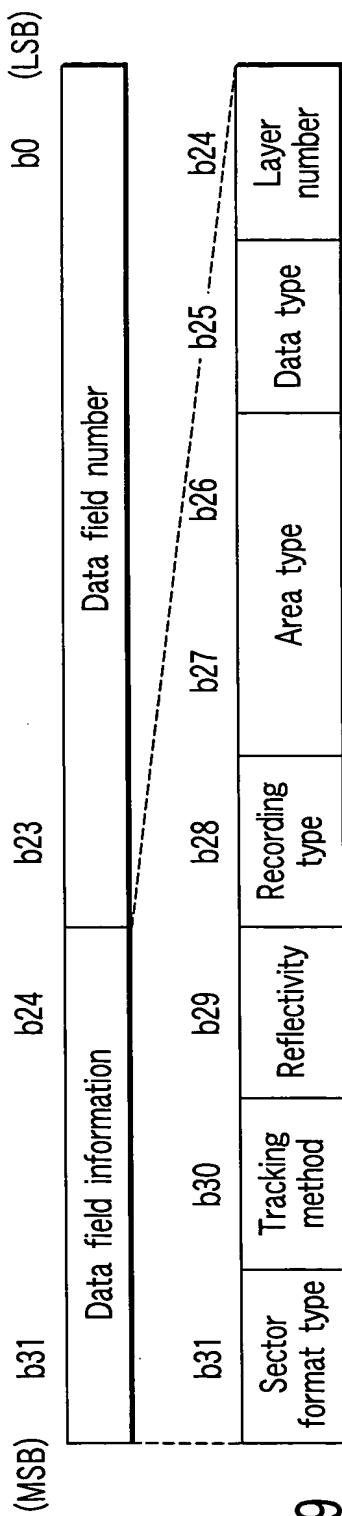


FIG. 19

Initial preset number	Initial preset value	Initial preset number	Initial preset value
0h	0001h	8h	0010h
1h	5500h	9h	5000h
2h	0002h	0Ah	0020h
3h	2A00h	0Bh	2001h
4h	0004h	0Ch	0040h
5h	5400h	0Dh	4002h
6h	0008h	0Eh	0080h
7h	2800h	0Fh	0005h

Initial value of shift register

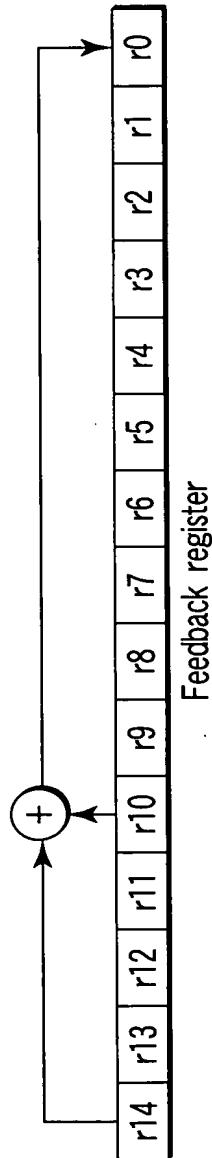


FIG. 20A

FIG. 20B

Initial value of shift register

→

Feedback register

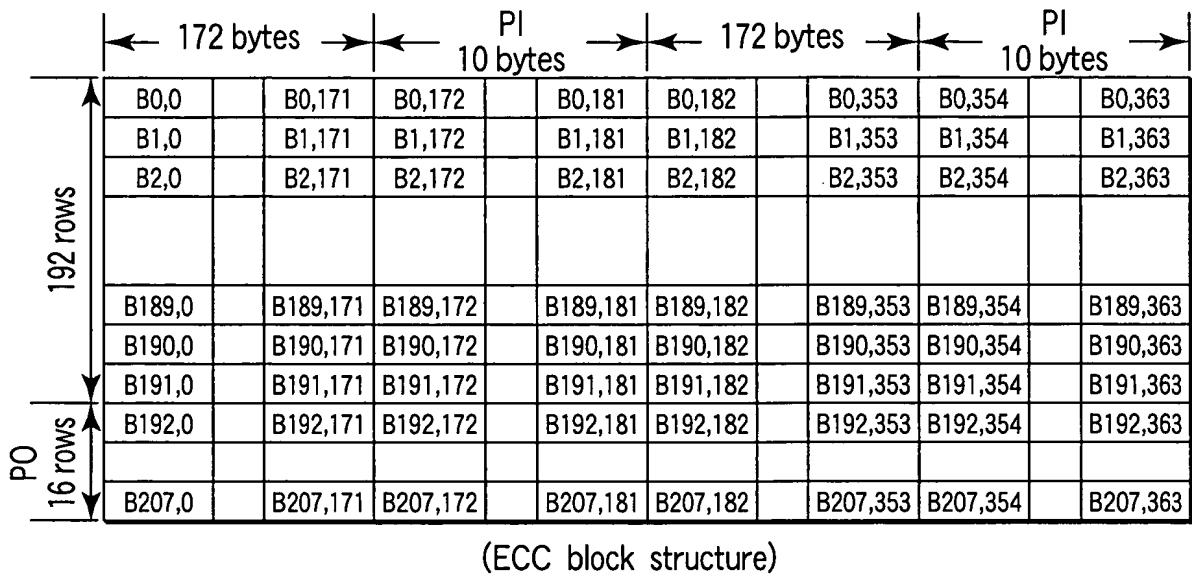


FIG. 21

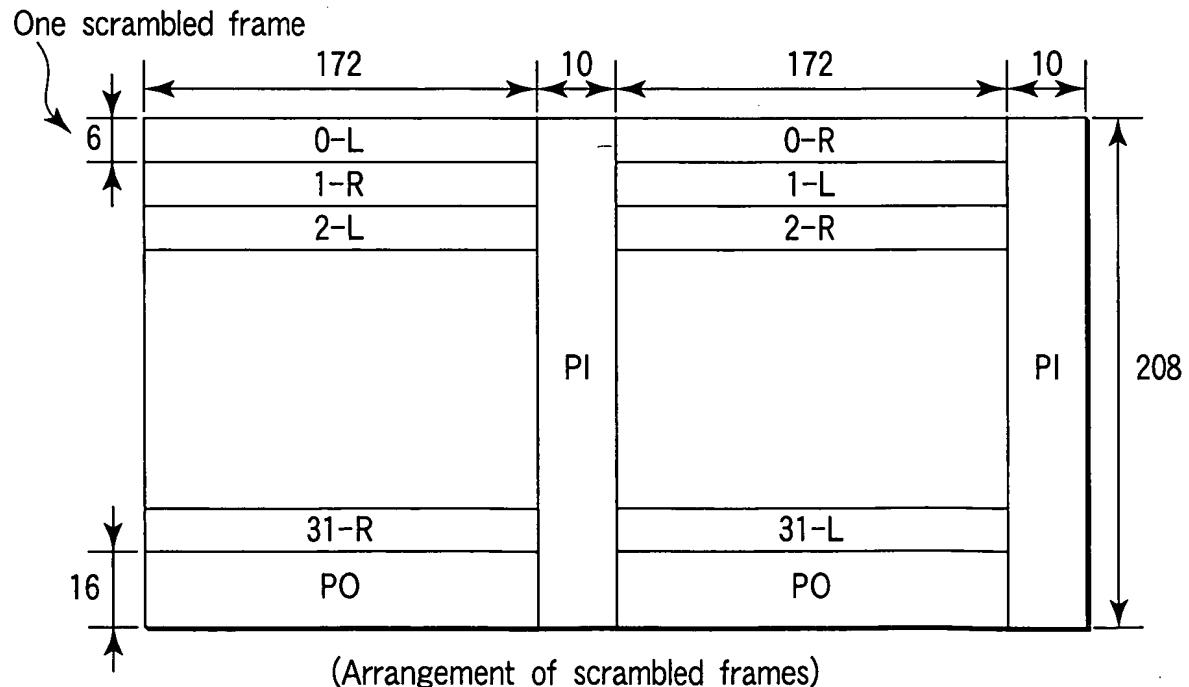


FIG. 22

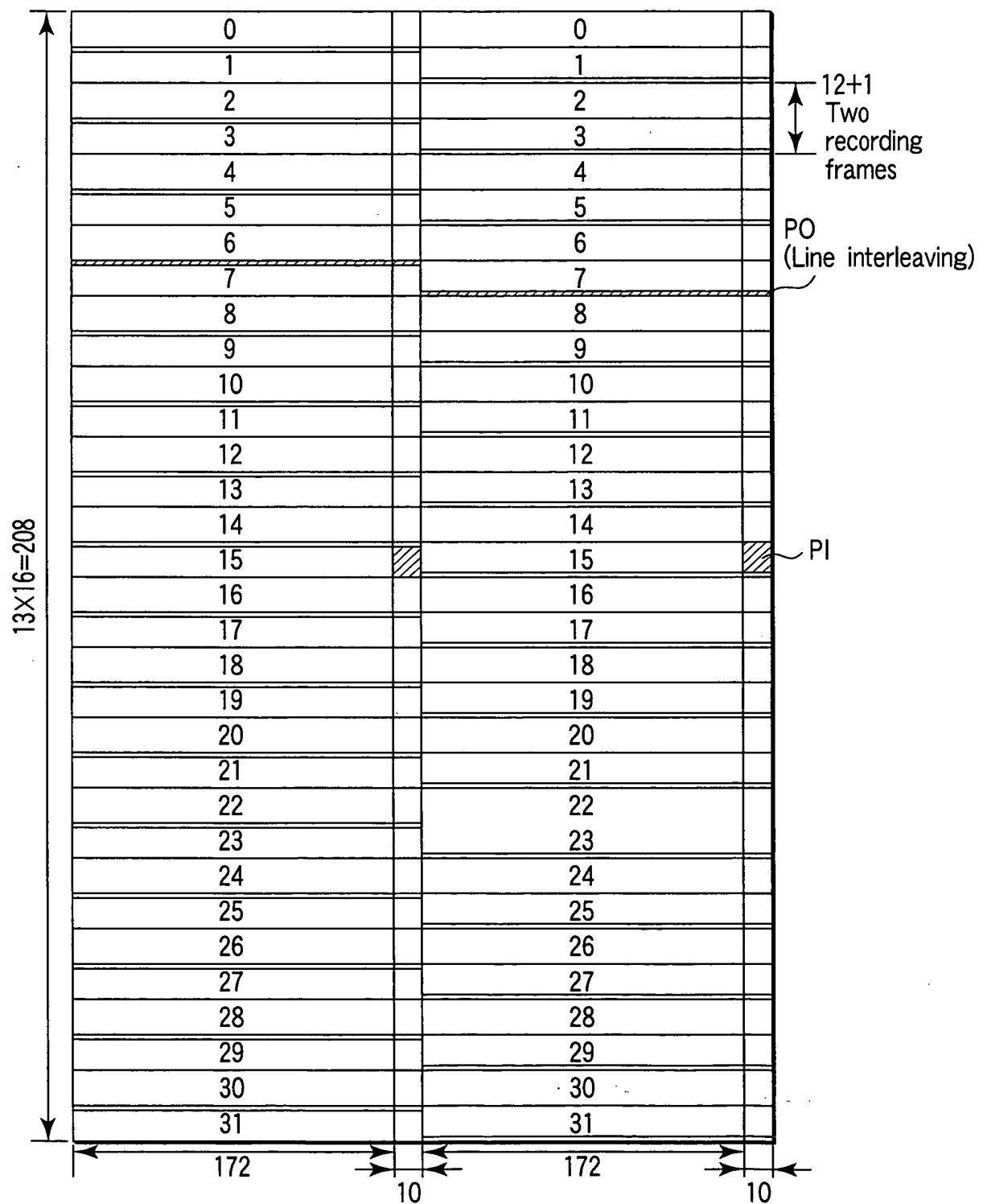


FIG. 23

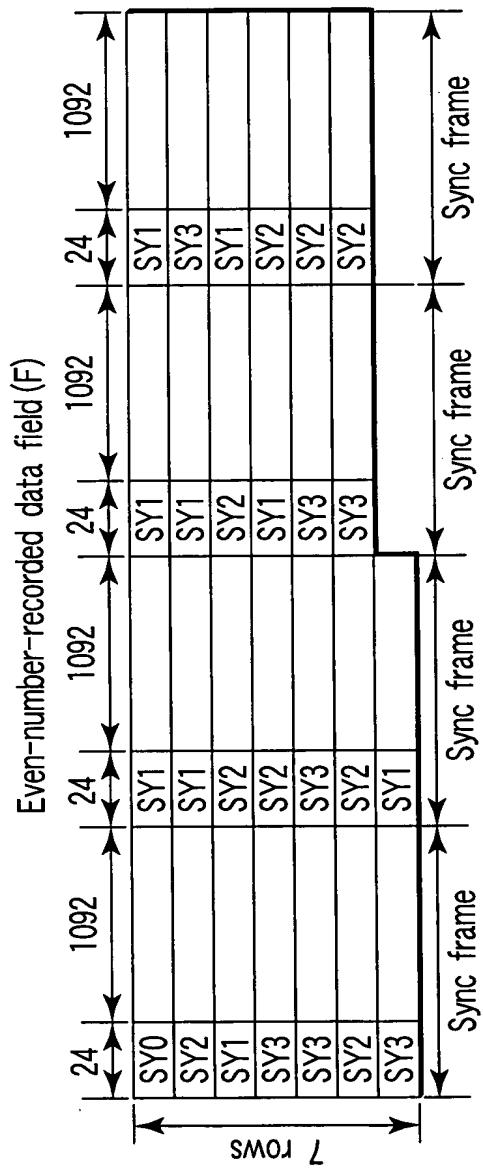


FIG. 24A

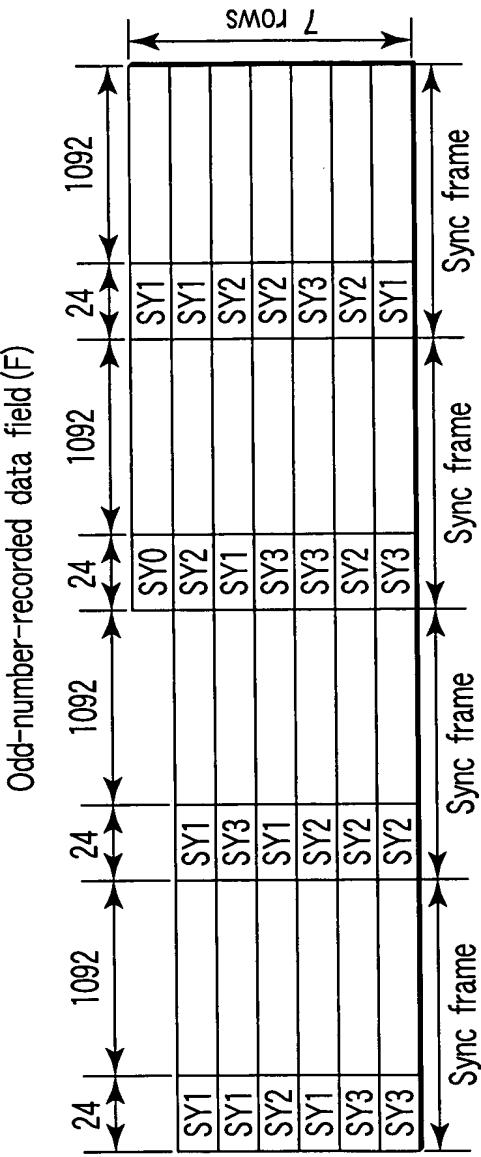
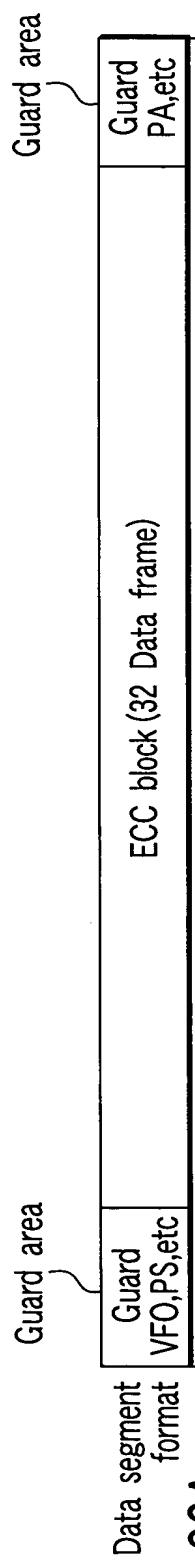


FIG. 24B

		(MSB) Primary SYNC codes (LSB)		(MSB) Secondary SYNC codes (LSB)	
SY0 =	000010	101000	000000	001001	/ 000010
	SY1 =	100001	001000	000000	001001 / 100010
	SY2 =	100100	001000	000000	001001 / 101000
	SY3 =	101000	001000	000000	001001 / 101010
State0					
SY0 =	000100	101000	000000	001001	/ 000100
	SY1 =	001001	001000	000000	001001 / 001010
	SY2 =	010000	101000	000000	001001 / 010000
	SY3 =	010100	001000	000000	001001 / 010101
State1					
(SYNC code)					

FIG. 25



Physical segment 0	1	2	3	4	5	6
0	1	2	3	4	5	6

FIG. 26B

Physical segment format	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0b	0b	bit 2	bit 1	bit 0													0b

FIG. 26C

Wobble data unit (Primary)	1b	0b	bit 2	bit 1	bit 0												0b
	2 wobble	2 wobble	4 wobble	4 wobble	4 wobble												68 wobble

FIG. 26D

Wobble data unit (Secondary for R)	1b	0b	bit 2	bit 1	bit 0												0b
	2 wobble	2 wobble	4 wobble	4 wobble	4 wobble												26 wobble

FIG. 26E

FIG. 27A (Primary) (Layout of wobble data unit)

SYNC	1b	0b	1b	0b
	6 wobble	4 wobble	6 wobble	68 wobble

FIG. 27A

Data	1b	0b	bit 2	bit 1	bit 0	0b
		2 wobble	4 wobble	4 wobble	4 wobble	68 wobble

FIG. 27B

monotone	0b	84 wobble	0b
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FIG. 27C

Wobble direction

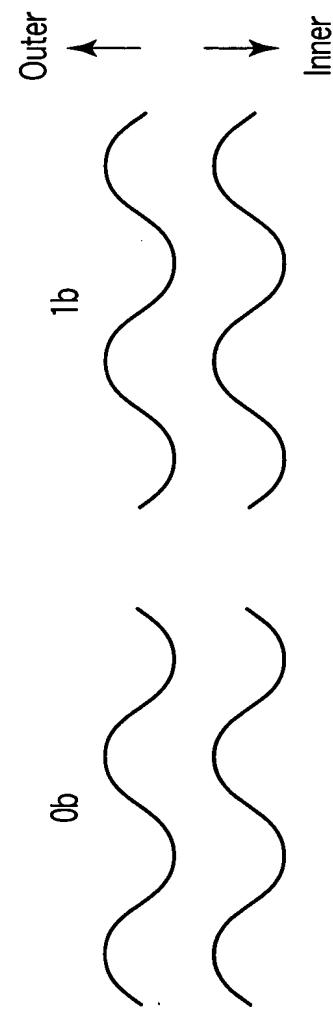


FIG. 27D

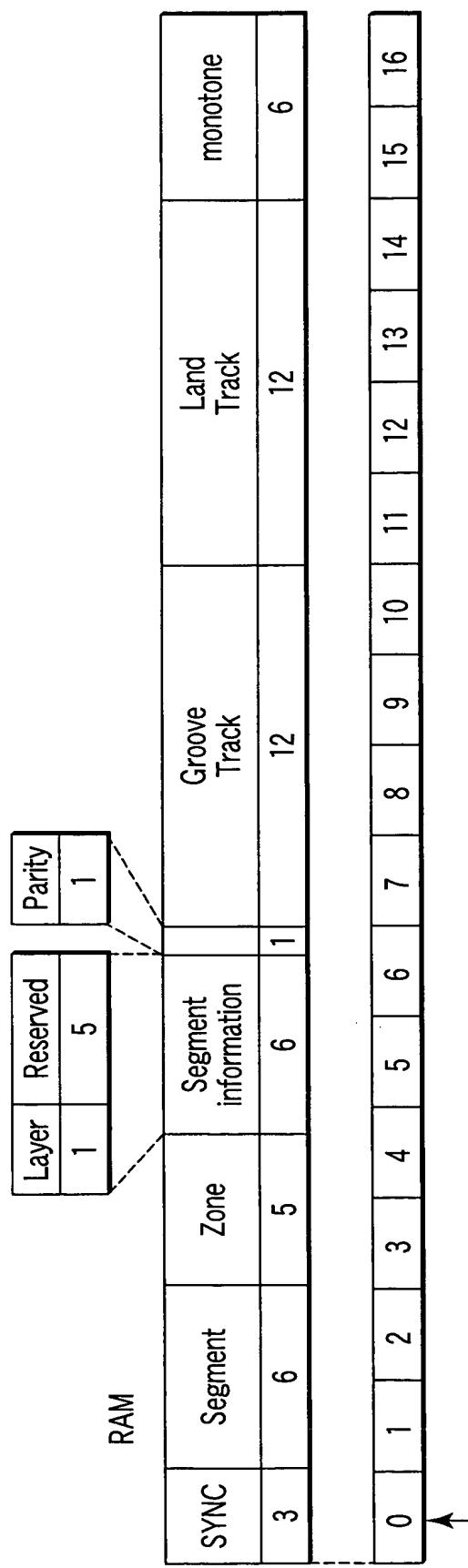


FIG. 28A

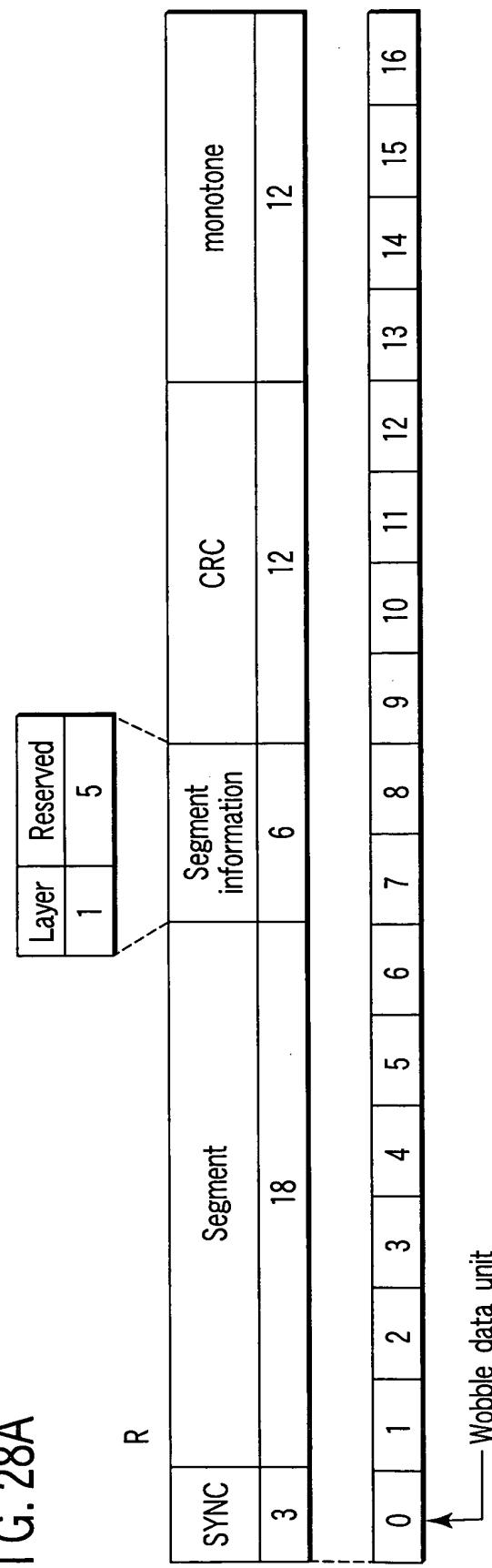


FIG. 28B

Groove	SYNC	Segment	Zone	Segment information	Parity	Groove track (m+2)	-	monotone
Land	SYNC	Segment	Zone	Segment information	Parity	-	Land track (m+2)	monotone
Groove	SYNC	Segment	Zone	Segment information	Parity	Groove track (m+1)	-	monotone
Land	SYNC	Segment	Zone	Segment information	Parity	-	Land track (m+1)	monotone
Groove	SYNC	Segment	Zone	Segment information	Parity	Groove track (m)	-	monotone
Land	SYNC	Segment	Zone	Segment information	Parity	-	Land track (m)	monotone

Outer edge
of disk



Inner edge
of disk

FIG. 29

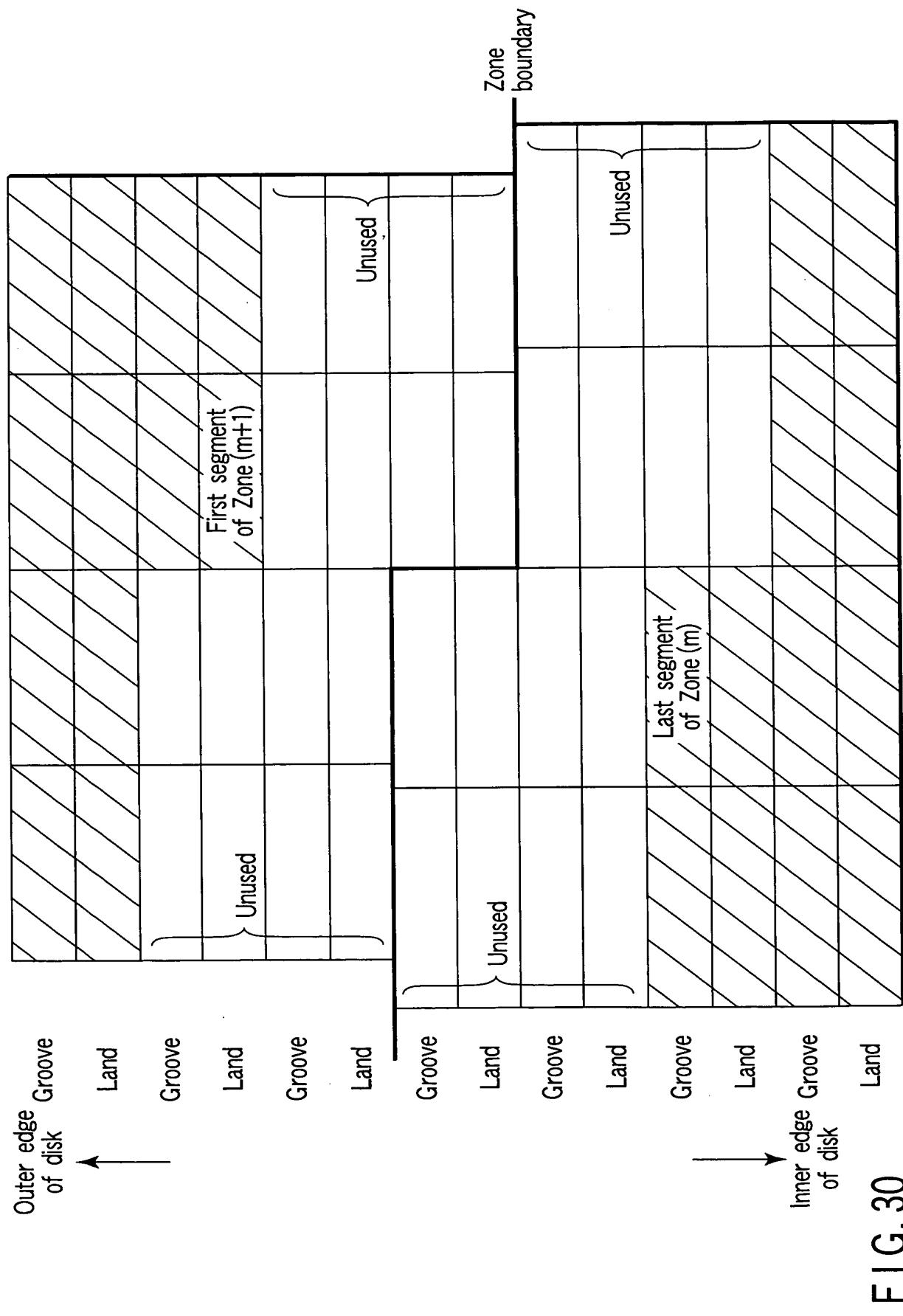


FIG. 30

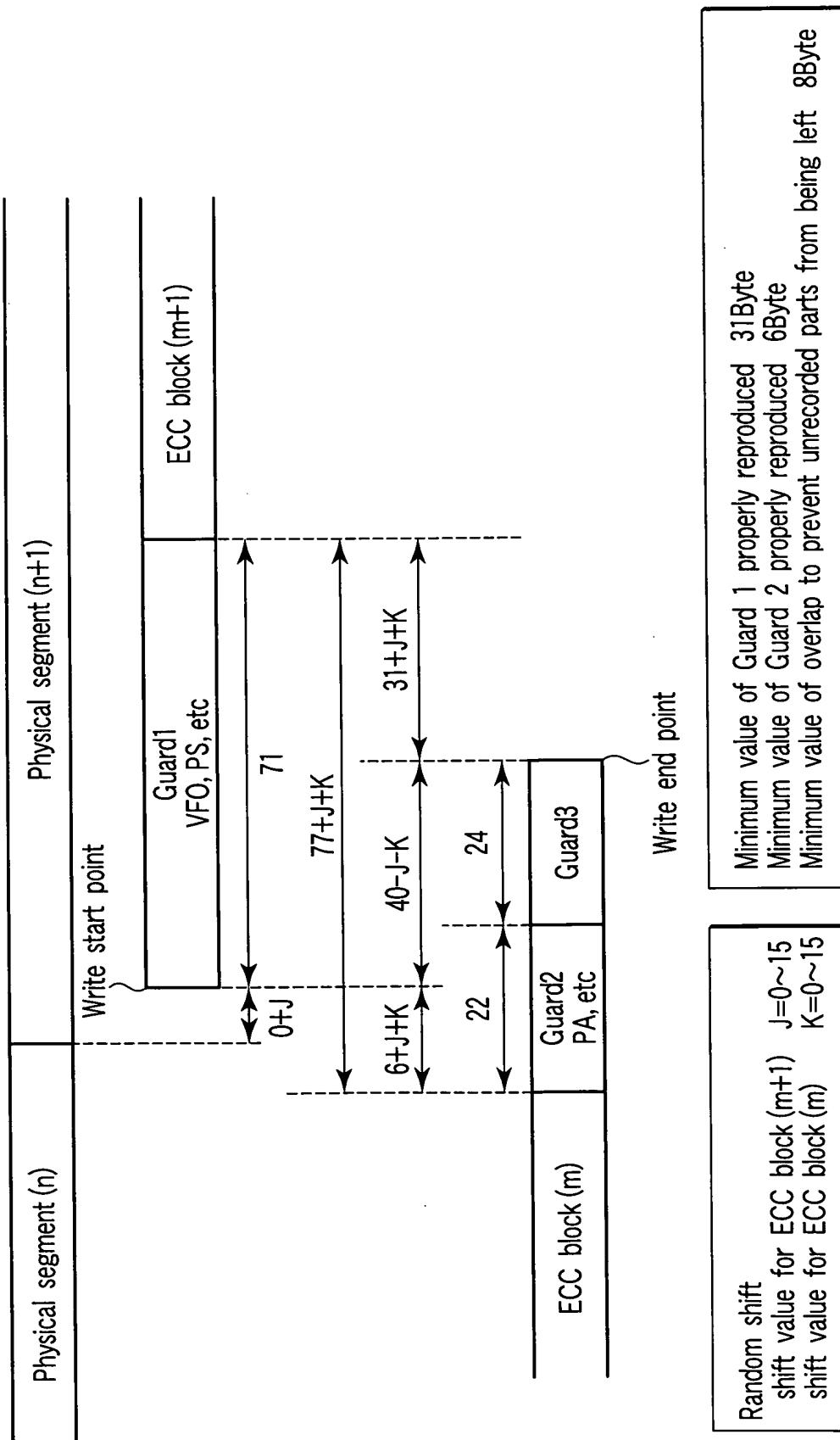
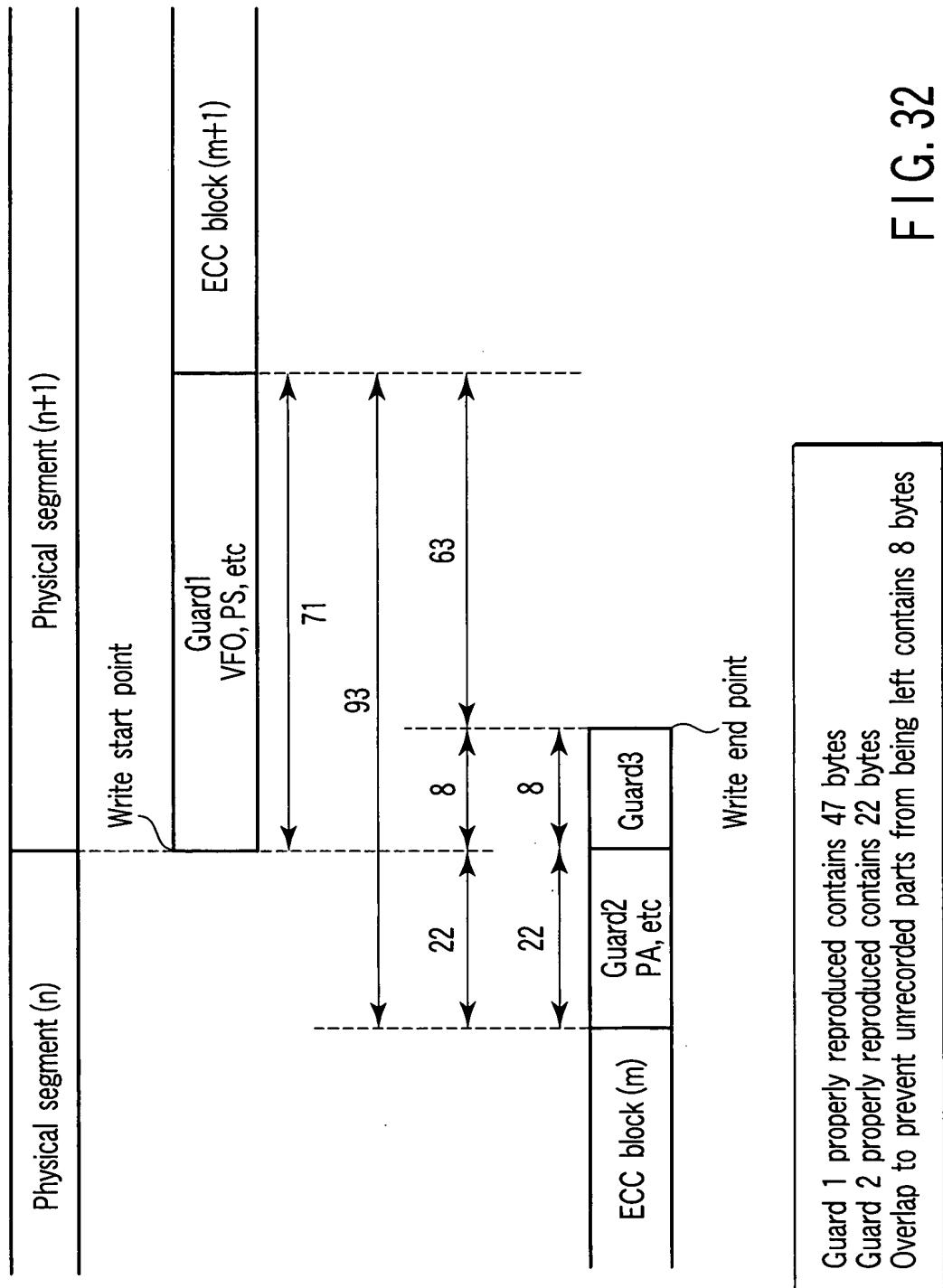


FIG. 31



F | G. 32

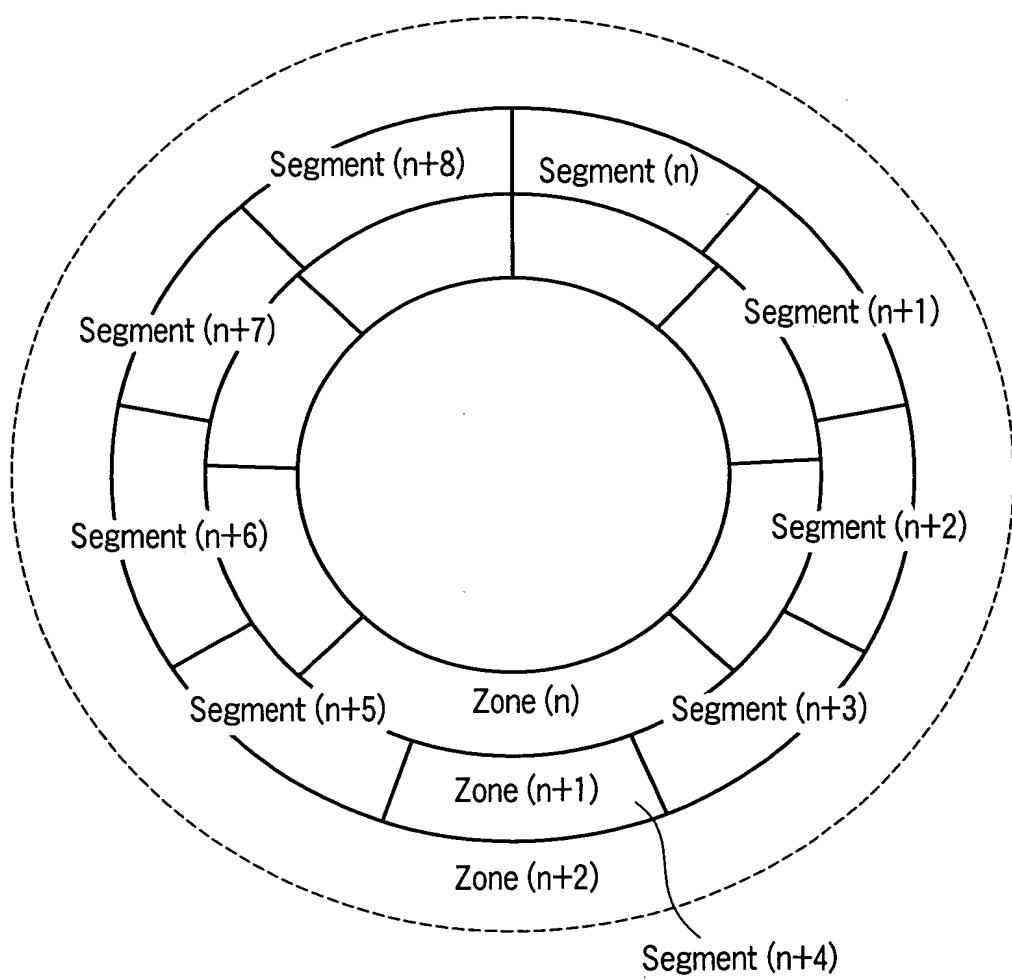
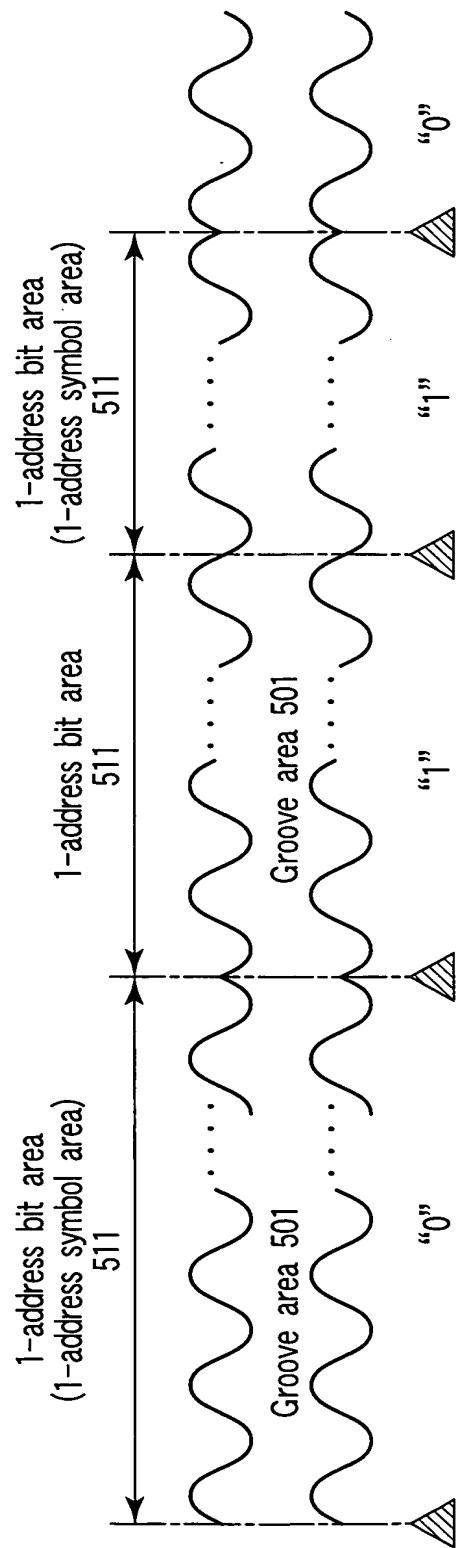


FIG. 33

Wobble modulation (180° phase modulation and NRZ method)



- ☆ 1-address bit area 511 (expressed in 8 wobbles or 12 wobbles)
- ☆ Frequency, amplitude, and phase in 1-address bit area = constant everywhere
- ☆ Boundary part of 1-address bit area 511 (180° or 0° phase shift)

FIG. 34

Wobble modulation in L/G recording (principle of occurrence of indefinite bits)

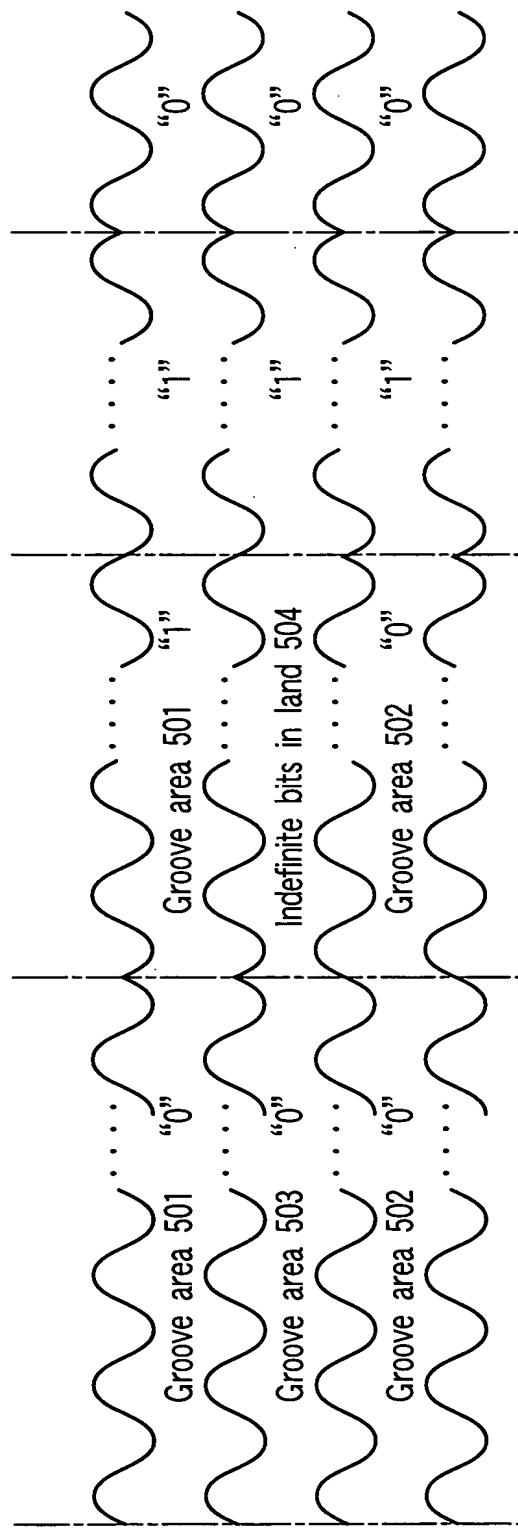


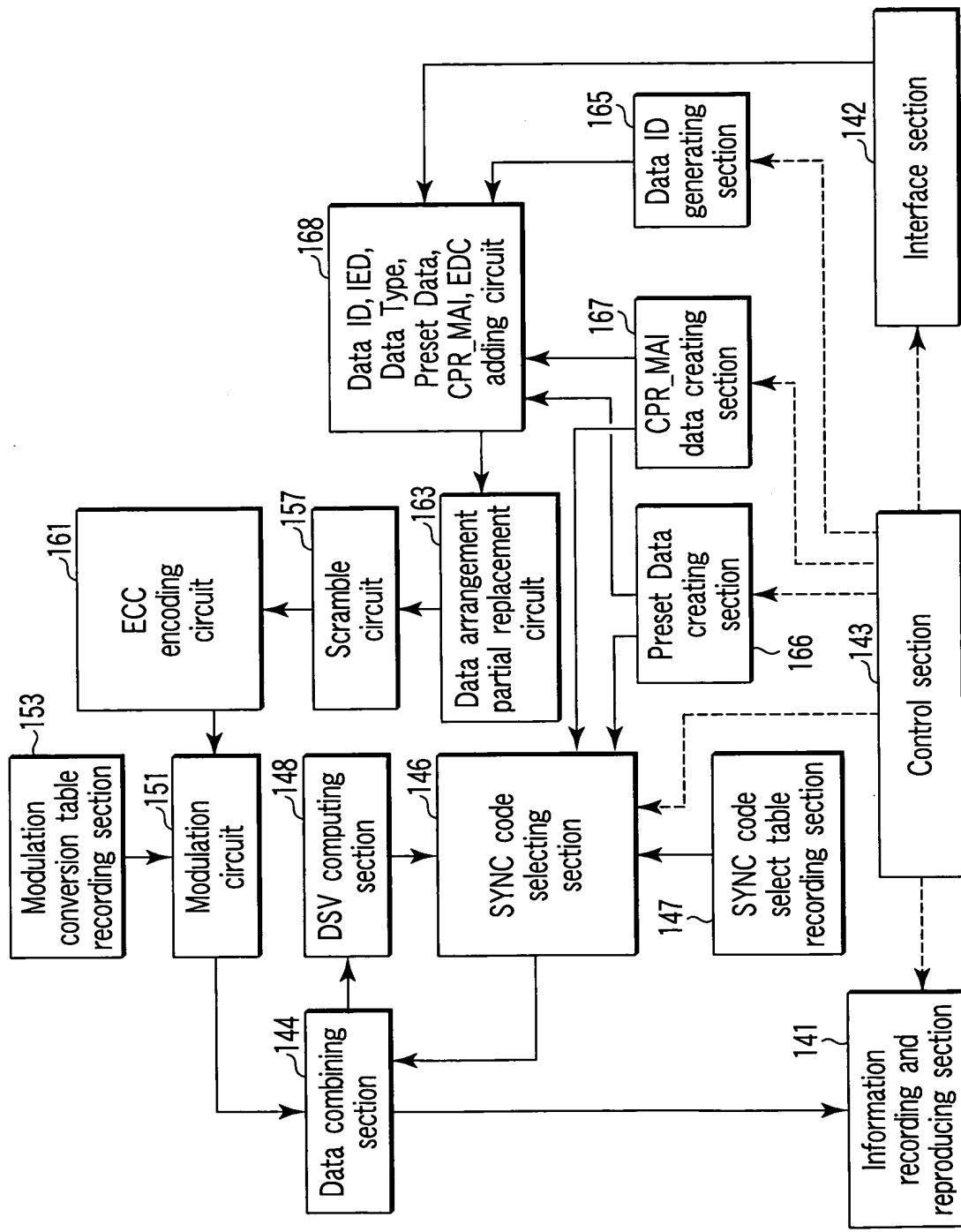
FIG. 35

Example of Gray code

Decimal number	Conventional binary representation	Gray code representation
0	0000	0000
1	0001	0001
2	0010	0011
3	0011	0010
4	0100	0110
5	0101	0111
6	0110	0101
7	0111	0100
8	1000	1100
9	1001	1101
10	1010	1111
11	1011	1110
12	1100	1010
13	1101	1011
14	1110	1001
15	1111	1000

FIG. 36

(Configuration of information recording and reproducing apparatus) (particularly centering on the recording system)



(Configuration of information recording and reproducing apparatus) (particularly centering on the reproducing system)

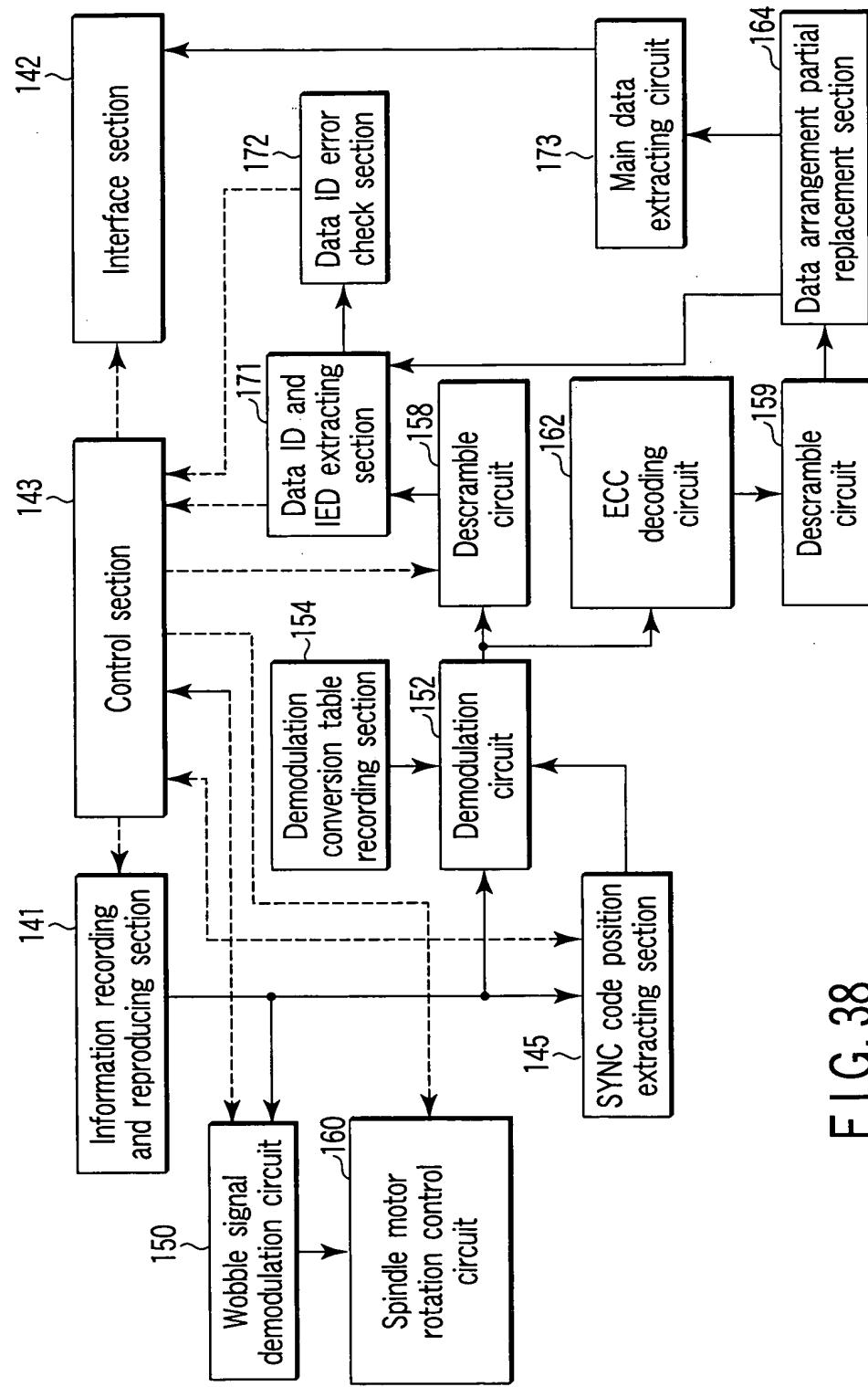


FIG. 38